

PMP40496 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
BT1, BT2	2		1043	Keystone	Battery Holder, Plastic, 18650, TH	Battery holder
C1, C2	2	22uF	GRM21BR61E226ME44L	MuRata	CAP, CERM, 22 uF, 25 V, +/- 20%, X5R, 0805	0805
C3, C9	2	1uF	CGJ3E1X7R1E105K080AC	TDK	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603
C4, C5, C7	3	10uF	C1608X5R1E106M080AC	TDK	CAP, CERM, 10 uF, 25 V, +/- 20%, X5R, 0603	0603
C6	1	0.047uF	GRM155R71E473KA88D	MuRata	CAP, CERM, 0.047 uF, 25 V, +/- 10%, X7R, 0402	0402
C8, C13, C18	3	4.7uF	C1005X5R1A475K050BC	TDK	CAP, CERM, 4.7 uF, 10 V, +/- 10%, X5R, 0402	0402
C10, C12, C17, C24	4	1uF	EMK105BJ105KVHF	Taiyo Yuden	CAP, CERM, 1 uF, 16 V, +/- 10%, X5R, 0402	0402
C11, C15, C16, C19, C26, C27	6	0.1uF	GRM155R71E104KE14D	MuRata	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0402	0402
C14, C29, C30, C31, C32	5	0.01uF	GRM155R71E103KA01D	MuRata	CAP, CERM, 0.01 uF, 25 V, +/- 10%, X7R, 0402	0402
C20	1	1000pF	GRM155R61E102KA01D	MuRata	CAP, CERM, 1000 pF, 25 V, +/- 10%, X5R, 0402	0402
C21, C22, C23, C25	4	0.1uF	C1005X7R1H104K050BB	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0402	0402
C28	1	2.2uF	GRM155R61C225KE11D	MuRata	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X5R, 0402	0402
D1, D3, D4, D5	4	13V	PTVS13VS1UR,115	NXP Semiconductor	Diode, TVS, Uni, 13 V, 21.5 Vc, SOD-123W	SOD-123W
D2	1	20V	B320A-13-F	Diodes Inc.	Diode, Schottky, 20 V, 3 A, SMA	SMA
D6	1	Green	LTST-C190GKT	Lite-On	LED, Green, SMD	1.6x0.8x0.8mm
D7	1	Red	LTST-C190CKT	Lite-On	LED, Red, SMD	Red LED, 1.6x0.8x0.8mm
D8	1	Orange	LTST-C190KFKT	Lite-On	LED, Orange, SMD	1.6x0.8x0.8mm
D9	1	75V	1N4148WX-TP	Micro Commercial Component	Diode, Switching, 75 V, 0.15 A, SOD-323	SOD-323
D10	1	15V	MMSZ5245BS-7-F	Diodes Inc.	Diode, Zener, 15 V, 200 mW, SOD-323	SOD-323
J1, J14	2		ED555/4DS	On-Shore Technology	Terminal Block, 3.5mm Pitch, 4x1, TH	14x8.2x6.5mm
J2	1		1051640001	Molex	Receptacle, USB 2.0, Micro B, 5 Position, R/A, SMT	Receptacle, USB 2.0, Micro B, 5 Pos, 0.65mm Pitch, R/A, SMT
J4	1		632723300011	Würth Elektronik	Connector, Receptacle, USB Type C, R/A	Connector, Receptacle, USB Type C, R/A, THT/SMT
J5	1		PEC07DAAN	Sullins Connector Solutions	Header, 100mil, 7x2, Tin, TH	Header, 7x2, 100mil, Tin
J6	1		PPPC071LFBN-RC	Sullins Connector Solutions	Receptacle, 2.54mm, 7x1, Gold, TH	Receptacle, 2.54mm, 7x1, TH
J7	1		22284043	Molex	Header, 2.54mm, 4x1, Tin, TH	Header, 2.54mm, 4x1, TH
J8, J10, JP1, JP2	4		PEC03SAAN	Sullins Connector Solutions	Header, 100mil, 3x1, Tin, TH	Header, 3 PIN, 100mil, Tin
J9, J15	2		22/05/3041	Molex	Header (friction lock), 100mil, 4x1, R/A, TH	4x1 R/A Header
J11, J12	2		395021006	Molex	Terminal Block Header, 3.5mm 6x1, Tin, R/A, TH	Header, 6x1 R/A
L1	1		74438336010	Würth Electronics	Inductor, Shielded, 1 uH, 4 A, 0.032 ohm, SMD	
Q1	1	20V	NTZD3154NT1G	ON Semiconductor	MOSFET, 2-CH, N-CH, 20 V, 0.54 A, SOT-563	SOT-563
Q2, Q3, Q5	3	25V	CSD16327Q3	Texas Instruments	MOSFET, N-CH, 25 V, 60 A, DQG0008A (VSON-CLIP-8)	DQG0008A
Q4	1	60V	2N7002K-T1-E3	Vishay-Siliconix	MOSFET, N-CH, 60 V, 0.3 A, SOT-23	SOT-23

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R1	1	0.005	CSR1206-0R005F1	Riedon	RES, 0.005, 1%, 1 W, 1206	1206
R2	1	392	CRCW0402392RFKED	Vishay-Dale	RES, 392, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R3	1	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R4	1	0.01	CSR1206FK10L0	Stackpole Electronics Inc	RES, 0.01, 1%, 0.5 W, 1206	1206
R5, R11, R12, R38, R41, R44, R49, R51, R53, R54, R68	11	10k	ERJ-2GEJ103X	Panasonic	RES, 10 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R6	1	5.23k	CRCW04025K23FKED	Vishay-Dale	RES, 5.23 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R7, R13, R14, R16, R17, R18, R19, R20, R21, R22, R23, R27, R28, R29, R30, R32, R33, R34, R35, R37, R39, R40, R42, R43, R61, R62, R64, R65, R66, R69, R70, R72, R73, R74, R75, R76, R77, R78, R79, R80	40	100	RC0402FR-07100RL	Yageo America	RES, 100, 1%, 0.063 W, 0402	0402
R8	1	30.1k	RC0402FR-0730K1L	Yageo America	RES, 30.1 k, 1%, 0.063 W, 0402	0402
R9, R15, R26, R31	4	1.00	CRCW04021R00FKED	Vishay-Dale	RES, 1.00, 1%, 0.063 W, 0402	0402
R10	1	909k	CRCW0402909KFKED	Vishay-Dale	RES, 909 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R24, R25, R63	3	10.0	MCR01MZPF10R0	Rohm	RES, 10.0, 1%, 0.063 W, 0402	0402
R36, R45	2	47.0k	RC0402FR-0747KL	Yageo America	RES, 47.0 k, 1%, 0.0625 W, 0402	0402
R46, R47, R48	3	1.50k	ERJ-2RKF1501X	Panasonic	RES, 1.50 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R50	1	1.0k	CRCW04021K00JNED	Vishay-Dale	RES, 1.0 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R52	1	100k	CRCW0402100KJNED	Vishay-Dale	RES, 100 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R55, R56	2	10Meg	CRCW040210M0JNED	Vishay-Dale	RES, 10 M, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R57	1	1.0k	RC0603JR-071KL	Yageo	RES, 1.0 k, 5%, 0.1 W, 0603	0603
R58	1	4.99	CRCW04024R99FKED	Vishay-Dale	RES, 4.99, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R59, R60	2	5.1k	CRCW04025K10JNED	Vishay-Dale	RES, 5.1 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R67	1	100	CRCW0603100RFKEA	Vishay-Dale	RES, 100, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R71	1	0.001	WSLP12061L000FEA	Vishay-Dale	RES, 0.001, 1%, 1 W, 1206	1206
RT1, RT2	2	10k	NCP15XH103F03RC	MuRata	Thermistor NTC, 10.0k ohm, 1%, 0402	0402
S1, S2	2		B3SL-1002P	Omron Electronic Components	SWITCH TACTILE SPST-NO 0.05A 12V	6.2x5.1x3.4mm
SH-JP1, SH-JP2, SH-JP3, SH-JP4	4	1x2	SNT-100-BK-G	Samtec	Shunt, 100mil, Gold plated, Black	Shunt
TP1, TP2, TP9	3		5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
TP3, TP4, TP10	3		5013	Keystone	Test Point, Multipurpose, Orange, TH	Orange Multipurpose Testpoint
TP5, TP6, TP11	3		5019	Keystone	Test Point, Miniature, SMT	Test Point, Miniature, SMT
TP7	1		5007	Keystone	Test Point, Compact, White, TH	White Compact Testpoint
TP8	1		5008	Keystone	Test Point, Compact, Orange, TH	Orange Compact Testpoint

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
U1	1		BQ25883RGER	Texas Instruments	I2C Controlled, 2-Cell, 2A Boost-Mode Battery Charger for USB Input, RGE0024H (VQFN-24)	RGE0024H
U2	1		TUSB320LAIRWBR	Texas Instruments	USB Type-C Configuration Channel Logic and Port Control, RWB0012A (X2QFN-12)	RWB0012A
U3	1		TPD4E1U06DBVR	Texas Instruments	Quad-Channel High-Speed ESD Protection Device, DBV0006A (SOT-23-6)	DBV0006A
U4	1		TPS70933DBVR	Texas Instruments	150-mA, 30-V, Ultra-Low IQ, Wide Input Low-Dropout Regulator with Reverse Current Protection, DBV0005A (SOT-23-5)	DBV0005A
U5	1		INA181A2IDBVR	Texas Instruments	Bidirectional, Low- and High-Side Measurement, Multichannel, Voltage Output, Current-Sense Amplifier, DBV0006A (SOT-6)	DBV0006A
U6, U7, U9, U11, U12, U14	6		TPD2EUSB30ADRTR	Texas Instruments	ESD / Surge Solution for High Speed, Low Voltage Interface, 2 Channels, -40 to +85 degC, 3-pin SOT (DRT), Green (RoHS & no Sb/Br)	DRT0003A
U8	1		TLV70433DBVR	Texas Instruments	Single Output LDO, 150 mA, Fixed 3.3 V Output, 2.5 to 24 V Input, with Ultra-Low IQ, 5-pin SOT-23 (DBV), -40 to 125 degC, Green (RoHS & no Sb/Br)	DBV0005A
U10	1		MSP430FR2433IRGER	Texas Instruments	MSP430FR2433 16 MHz Ultra-Low-Power Microcontroller with 16 KB FRAM, 4 KB RAM, 19 IO, 4 Timers, RGE0024H (VQFN-24)	RGE0024H
U13	1		BQ28Z610DRZR	Texas Instruments	Battery Fuel Gauge with Integrated Protector for 1-2 Series Packs, DRZ0012A (VSON-12)	DRZ0012A
U15, U16, U17, U18	4		ESD351DPYR	Texas Instruments	1-Channel 30 kV ESD Protection Diode With Low Clamping Voltage in 0402 Package, DPY0002A (X1SON-2)	DPY0002A

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2019, Texas Instruments Incorporated